Roll No: | | | | | | | | | | | |

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PRESIDENCY UNIVERSITY

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Bengaluru

Mid Term Examinations - October 2026

Date: 07/10/2026 **Time:** 02:00 PM - 03:30 PM

Course Code: ISE2510 **Course Name:** Ethics of AI

Semester: Fifth Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	44	46

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	What is the core idea of the "Principle of Double Effect"?	2	CO1	BT1
2	Define "Demographic Parity" in the context of fairness in machine learning.	2	CO2	BT1
3	What is "Deployment Bias"?	2	CO2	BT1
4	Distinguish between "Intelligibility" and "Explainability" in AI transparency.	2	CO2	BT2
5	State the primary directive of Kant’s Categorical Imperative.	2	CO1	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Explain the "Fairness Impossibility Theorem". Why does it state that fairness in AI is not a purely mathematical or technical problem, but an ethical and policy decision?	10	CO2	BT2
7	Detail the key stakeholder groups involved in AI development and deployment. Briefly explain the respective roles and responsibilities of Developers, Organizations, Regulators, and Users.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
8	**Case Study:** A university uses an AI system to review admissions applications. The AI is trained on data from the past 30 years. Two students with identical grades and test scores apply. One is from an affluent background, and the other is from a historically disadvantaged socio-economic background. The AI rejects the disadvantaged student because the historical data shows lower graduation rates for students from that background. **(a) (4 Marks)** Identify the specific type of bias present (e.g., Historical, Labeling) and explain why it occurred. **(b) (6 Marks)** Discuss this scenario through the conflict between "Individual Fairness" and "Group Fairness".	10	CO1	BT3

PTO (Please Turn Over)

9	**Case Study:** A social media platform uses an AI content moderator. To train the AI, human annotators from a specific cultural background are hired to flag "aggressive behavior." When deployed globally, the AI disproportionately flags everyday slang from specific regional dialects as offensive. **(a) (6 Marks)** Identify and explain how both "Labeling Bias" and "Representation Bias" contributed to this failure. **(b) (4 Marks)** Propose two methods used in AI Audits that could have detected this ethical compliance issue before deployment.	10	CO2	BT3

PART D: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
10	**Case Study:** An autonomous vehicle driving on a public road fails to detect a pedestrian crossing illegally. At the last second, the AI system detects the pedestrian and swerves to avoid them, crashing into a concrete barrier and severely injuring the passenger inside. **(a) (5 Marks)** Discuss how this incident reflects the limitations of purely automated ethics using the "Trolley Problem" concept. **(b) (5 Marks)** How would a Virtue Ethics approach analyze the programming and long-term societal deployment of such an autonomous vehicle?	10	CO1	BT3
11	**Case Study:** An AI algorithm is used to determine credit scores for small business loans. The developers utilized deep learning models that act as a "black box" to maximize financial returns. The AI denies a loan to a minority business owner, but the bank cannot explain which variables caused the rejection. **(a) (6 Marks)** Evaluate the ethical issues of transparency versus intellectual property/accuracy trade-offs in this scenario. **(b) (4 Marks)** According to the AI lifecycle accountability framework, who holds accountability for the "Responsibility Gap" in this deployment?	10	CO2	BT3

PART E: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
12	**(a)** Discuss the difference between "Normative Ethics" and "Applied Ethics". **(b) Case Study :** Generative AI tools (like ChatGPT) are being used by students to write code and essays. Using ethical reasoning regarding fairness and academic honesty, argue whether universities should ban, regulate, or openly integrate AI into education.	10	CO1	BT3
13	**(a)** Explain the concept of the "Responsibility Gap" in AI systems and why it makes accountability challenging. **(b) Case Study:** A corporate HR department uses an AI tool to rank job candidates. The AI optimizes solely for the highest predicted tenure (Accuracy/Profit focus), resulting in the rejection of female candidates who historically took maternity leave. Analyze this using the concept of "Model Optimization Bias" and the trade-off between fairness and accuracy.	10	CO2	BT3